BRYAN WILDER

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EDUCATION

Harvard University *2019 - Present*
PhD Candidate, School of Engineering and Applied Sciences
Adviser: Milind Tambe

University of Southern California *2015 - 2019*
PhD Candidate, Department of Computer Science
Adviser: Milind Tambe

University of Central Florida *2011 - 2015*
B.S. Computer Science *(summa cum laude)* with Minor in Mathematics
Thesis: Sparsification of Social Networks Using Random Walks. Advised by Gita Sukthankar.
Outstanding Thesis Award for Science and Engineering.

EXPERIENCE

Microsoft Research, Redmond *Summer 2019*
Research Intern
Mentors: Ece Kamar and Eric Horvitz

SELECTED AWARDS AND FELLOWSHIPS

2019 Honorable mention for ICML Best Paper Award

2019 Best Research Assistant, USC Viterbi School of Engineering

2018 Second place in INFORMS Doing Good with Good OR Competition

2018 Nominated for AAMAS Best Student Paper Award

2017 AAAI Best Video Award

2017 Nominated for AAMAS Best Paper Award

2016 National Science Foundation Graduate Research Fellowship

2015 University of Southern California Annenberg Fellowship

2011 University of Central Florida Provost Scholar

RIGOROUSLY REVIEWED CONFERENCE PUBLICATIONS

C19. Po-Wei Wang, Priya L. Donti, **Bryan Wilder**, Zico Kolter. SATNet: Bridging deep learning and logical reasoning using a differentiable satisfiability solver. International Conference on Machine Learning (ICML). 2019. **Honorable mention for best paper**.

C18. Alan Tsang*, **Bryan Wilder***, Eric Rice, Milind Tambe, Yair Zick. Group-Fairness in Influence Maximization. International Joint Conference on Artificial Intelligence (IJCAI). 2019. *Equal contribution

C17. Jackson A. Killian, **Bryan Wilder**, Amit Sharma, Vinod Choudhary, Bistra Dilkina, Milind Tambe. Learning to Prescribe Interventions for Tuberculosis Patients using Digital Adherence Data. *ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)*. 2019.

C16. Matthew Staib* **Bryan Wilder***, Stefanie Jegelka. Distributionally Robust Submodular Maximization. *International Conference on Artificial Intelligence and Statistics (AISTATS)*. 2019. *Equal contribution

C15. **Bryan Wilder**, Bistra Dilkina, Milind Tambe. Melding the Data-Decisions Pipeline: Decision-Focused Learning for Combinatorial Optimization. *AAAI Conference on Artificial Intelligence (AAAI)*. 2019.

C14. **Bryan Wilder**, Yevgeniy Vorobeychik. Defending Elections Against Malicious Spread of Misinformation. *AAAI Conference on Artificial Intelligence (AAAI)*. 2019.

C13. Mohammad Javad Azizi, Phebe Vayanos, **Bryan Wilder**, Eric Rice, Milind Tambe. Designing Fair, Efficient, and Interpretable Policies for Prioritizing Homeless Youth for Housing Resources. *International Conference on the Integration of Constraint Programming, Artificial Intelligence, and Operations Research (CPAIOR)*. 2018. **Invited to Constraints journal fast track for outstanding papers.**

C12. **Bryan Wilder**, Laura Onasch-Vera, Juliana Hudson, Jose Luna, Nicole Wilson, Robin Petering, Darlene Woo, Milind Tambe, Eric Rice. End-to-End Influence Maximization in the Field. *International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*. 2018. **Nominated for best student paper.**

C11. **Bryan Wilder**, Han Ching Ou, Kayla de la Haye, Milind Tambe. Optimizing network structure for preventative health. *International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*. 2018.

C10. **Bryan Wilder**, Yevgeniy Vorobeychik. Controlling Elections through Social Influence. *International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*. 2018.

C9. Lily Hu, **Bryan Wilder**, Amulya Yadav, Eric Rice, and Milind Tambe. Activating the "Breakfast Club": Modeling Influence Spread in Natural-World Social Networks. *International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*. 2018.

C8. **Bryan Wilder**, Sze-Chuan Suen, and Milind Tambe. Preventing infectious disease in dynamic populations under uncertainty. *AAAI Conference on Artificial Intelligence (AAAI)*. 2018.

C7. **Bryan Wilder**. Equilibrium computation and robust optimization in zero sum games with submodular structure. *AAAI Conference on Artificial Intelligence (AAAI)*. 2018.

C6. **Bryan Wilder**. Risk-sensitive submodular optimization. *AAAI Conference on Artificial Intelligence (AAAI)*. 2018.

C5. **Bryan Wilder**, Nicole Immorlica, Eric Rice, and Milind Tambe. Maximizing influence in an unknown social network. *AAAI Conference on Artificial Intelligence (AAAI)*. 2018.

C4. **Bryan Wilder**, Amulya Yadav, Nicole Immorlica, Eric Rice and Milind Tambe. Uncharted but not Uninfluenced: Influence Maximization with an Uncertain Network. *International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*. 2017.

C3. Amulya Yadav, **Bryan Wilder**, Robin Petering, Eric Rice and Milind Tambe. Influence Maximization in the Field: The Arduous Journey from Emerging to Deployed Application. *International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*. 2017. **Nominated for best paper award.**

C2. Shahrzad Gholami, **Bryan Wilder**, Matthew Brown, Arunesh Sinha, Dana Thomas, Nicole Sintov, Milind Tambe. Divide to Defend: Collusive Security Games. *Conference on Decision and Game Theory for Security (GameSec)*. 2016.

C1. **Bryan Wilder** and Gita Sukthankar. Sparsification of Social Networks Using Random Walks. *International Conference on Social Computation (SocialCom).* 2015

JOURNAL PUBLICATIONS

J5. Eric Rice, Robin Petering, Amanda Yoshioka-Maxwell, Jaih Craddock, Darlene Woo, Nicole Wilson, Laura Onasch-Vera, **Bryan Wilder**, Amulya Yadav, Milind Tambe. Piloting the Use of Artificial Intelligence to Enhance HIV Prevention Interventions for Youth Experiencing Homelessness. *Journal of the Society for Social Work and Research* (forthcoming).

J4. Anne Kandler, **Bryan Wilder**, Laura Fortunato. Inferring individual-level processes from population-level patterns in cultural evolution. *Royal Society Open Science.* 2017.

J3. **Bryan Wilder** and Anne Kandler. Inference of Transmission Modes Based on Incomplete Information. *Human Biology.* 2015.

J2. **Bryan Wilder** and Kenneth O. Stanley. Reconciling Explanations for the Evolution of Evolvability. *Adaptive Behavior.* 2015.

J1. **Bryan Wilder** and Kenneth O. Stanley. Altruists Proliferate Even When at a Selective Disadvantage Within their Own Niche. *PLOS One.* 2015.

VIDEOS

Amulya Yadav, Eric Rice, Robin Petering, Jaih Craddock, **Bryan Wilder**, Milind Tambe. HEALER: Using AI to Raise HIV Awareness among Homeless Youth. *AAAI Conference on Artificial Intelligence (AAAI).* 2017. **Best video award.**

GRANT PROPOSALS ASSISTED WITH

G3. S&CC: Landslide Risk Management in Remote Communities: Integrating Geoscience, Data Science, and Social Science in Local Context. 9/1/2019-8/31/2022, approx. $2,100,974; NSF Smart & Connected Cities.

G2. Playing Security Games With No Time for Mapping Full Networks: Maximizing Influence in Uncharted Social Networks, 2/1/2017-9/1/2017, approx. $500,000; Army Research Office.

G1 Spatio-Temporal Game Theory and Real-Time Machine Learning for Adversarial Groups in the Wild, 01/01/2017-12/31/2019, approx. $1,250,000; Office of the Secretary of Defense MINERVA Research Initiative.

PROFESSIONAL SERVICE

Organizing Committee: IJCAI 2019 Workshop on AI for Social Good, AAAI 2017 Spring Symposium on AI for Social Good (AISOC).

Tutorial presenter: AAMAS 2019 ("Optimization and Learning Approaches to Resource Allocation for Social Good"), IJCAI 2018 ("Algorithmic Social Intervention"), AAMAS 2018 ("AI for Social Good").

Program Committee: AAAI 2020, AAAI 2019, NIPS 2018.

Reviewer: AAMAS 2018, AAAI 2018, IJCAI 2017, 2016, GameSec 2016, NIPS 2016, IEEE Transactions on Signal Processing on Networks, Philosophical Transactions of the Royal Society B, ACM Transactions on Data Science, IEEE Transactions on Big Data.

STUDENTS MENTORED

Noah Foreman (B.S. student, USC). Summer 2017. Project: simulating models of influence diffusion on social networks and examining impact of model misspecification on influence maximization algorithms.

TEACHING EXPERIENCE

Graduate Teaching Assistant University of Southern California. *Spring 2018*
CSCI 170: Discrete Methods in Computer Science.

Graduate Teaching Assistant, University of Southern California. *Summer 2017*
CSCI 104: Object Oriented Programming and Data Structures